

due to lack of observers in the subtropical zone, and the fact that *G. haplonota* is easily overlooked and very difficult to collect, even when using playback recordings. We predict that *G. haplonota* eventually will be recorded from at least southern Colombia to northern Peru (north of the Marañón Valley). The race *parambae* is known only from the west slope of the Andes in Ecuador, although S. Hilty (*in* Hilty & Brown, MS) notes that he may have heard it in southwestern Colombia, also on the west slope, between 900 and 1200 m (Deptos. Nariño & Valle).

Although the new form is morphologically the most divergent of *haplonota* populations, a vocal comparison of recordings of the nominate race (Venezuela: Caracas; Oripoto, by P. A. Schwartz, Cornell Laboratory of Sounds) revealed no significant differences from *chaplinae*. Likewise, vocalizations of *chaplinae* and *parambae* (El Oro) are nearly identical.

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## Plumage stages, moults, sexual dimorphism and systematic position of the Somali Wheatear *Oenanthe phillipsi*

by Alan Tye

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In his original description of the Somali Wheatear *Oenanthe phillipsi*, Shelley (1885) gave no indication of the range of variation in the species, describing a single plumage form with a black face, throat and breast. He did not assign the description to any particular age or sex, thereby implying monomorphism. Shelley's type was collected by Lort Phillips in 1884, along with several other specimens of the new species, and it is likely that Shelley examined more than

just the type. However, all of Lort Phillips' specimens, now in the British Museum (Natural History) (BMNH), were of the same, 'black-throated' plumage phase, and most were unsexed.

Later, birds of this species, with a so-called 'grey' face, throat and breast, were collected. These were not mentioned by Archer & Godman (1961), who described the black-throated form fully, applying it to both sexes (see also Meinertzhagen 1954). However, later authors (e.g. White 1962, Hall & Moreau 1970) have assumed that black-throated individuals are males and grey-throats females. Hall & Moreau (1970) go further, and ascribe to the 'female' a brown tinge to the grey back.

*Oenanthe phillipsi* has frequently been considered a subspecies of the Northern Wheatear *O. oenanthe* (e.g. Meinertzhagen 1930, 1954, White 1962), or, at least, closely-related to it, as it resembles Seebohm's Wheatear *O. o. seebohmi* of northwest Africa in combining black throat with grey back (Meinertzhagen 1954). However, Hall & Moreau (1970) state that at least as good a case can be made for allying *O. phillipsi* with the Pied Wheatear, *O. pleschanka*, which it resembles more closely in tail-pattern and egg colour and in the sexual dimorphism which they ascribe to *O. phillipsi*. I hope to show here that the earlier authors were correct in describing *O. phillipsi* as sexually monomorphic in plumage, and that the colour of the face, throat and breast reflects age, not sex. As throat colour and sexual dimorphism have been used in judging the species' possible relationships, I have also re-examined its systematic position.

The results and conclusions presented here are based on specimens at BMNH.

## Plumage forms

### ADULT MALE AND FEMALE

Of the available specimens, 93% were sexed by the original collector. These determinations, taken with study of the juvenile plumage and its progression towards the adult form (see below), reveal no differences in plumage between the sexes. Adult plumage is as follows:

Forehead and supercilium white; crown, nape, back and scapulars pure french-grey; sides of neck, ear-coverts, lores, chin, throat and breast black; rump and upper tail-coverts white, central pair of rectrices black with white edges near base and tipped white; other rectrices white with distal  $\frac{3}{4}$  of shaft black, broadening on outer web to a black wedge, which extends across the inner web near the tip (Fig. 1); all rectrices tipped white, wearing off, especially on central pair; belly and under tail-coverts white, primaries very dark brown or black, without buff tip, even when fresh; secondaries and tertials very dark brown or black, narrowly tipped white when fresh, with tertials and inner secondaries fringed white on outer web; greater primary-coverts black; other wing-coverts pale grey; under wing-coverts and axillaries black; underside of remiges smoke-grey; bill black; legs and feet black.

### JUVENILE MALE AND FEMALE

The newly-fledged young are speckled, as in other wheatears: forehead, crown, nape, back, scapulars, face and underparts down to lower breast mottled brown and dark grey (feathers broadly tipped brown, basally dark grey with brown tinge); rump and upper tail-coverts white; tail as adult but black areas

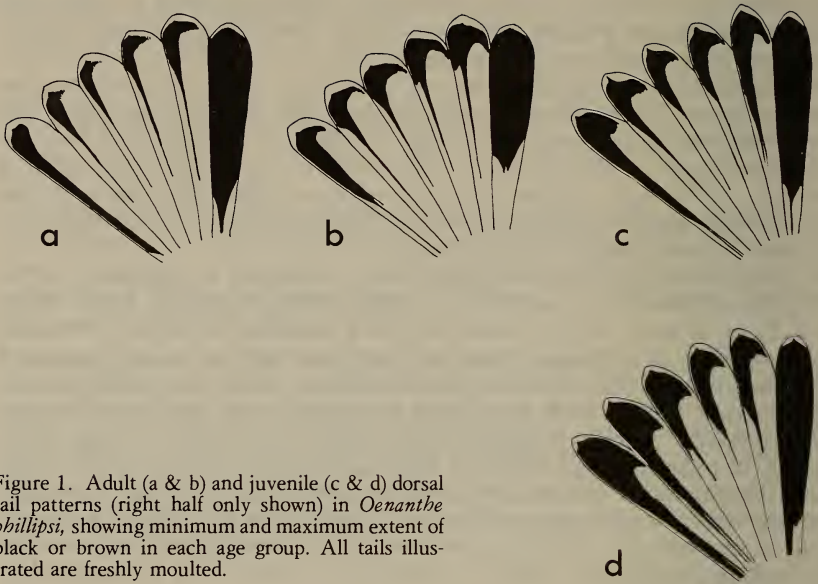


Figure 1. Adult (a & b) and juvenile (c & d) dorsal tail patterns (right half only shown) in *Oenanthe phillipsi*, showing minimum and maximum extent of black or brown in each age group. All tails illustrated are freshly moulted.

are browner and are broader on both webs (Fig. 1); belly and under tail-coverts white smudged with dark brown, especially near breast; primaries dark brown, tipped buff when fresh; secondaries and tertials dark brown, tipped and fringed on outer web with buff; wing-coverts buff (basally greyish-brown); underwing as adult; bill dark brown, basally horn.

Hence, important juvenile characteristics are: brown on the back, brown and grey on the areas which are black in adults, tail pattern and colour of primaries. In addition, the juvenile primaries are broader and rounder than those of adults, which are more squarely-tipped (Fig. 2). This is particularly evident on primary 9 (descendent). The buff wing-coverts are less useful for identification as they are soon replaced by pale grey ones (see below). Apart from the wing-coverts, the juvenile characters may be traced in older birds, and permit separation of first-year individuals from adults.

#### FIRST WINTER (UNTIL JANUARY) MALE AND FEMALE

The plumage of first-winter birds does not appear to have been described before. It is developed from the juvenile dress by wear and a prolonged post-juvenile moult (described below). An asterisk indicates features which differ noticeably from the fully-adult plumage: forehead and supercilium white;

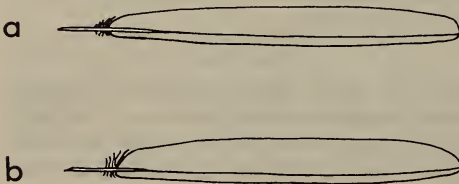


Figure 2. Primary 9 (numbering descendently) of (a) adult and (b) immature *Oenanthe phillipsi*.

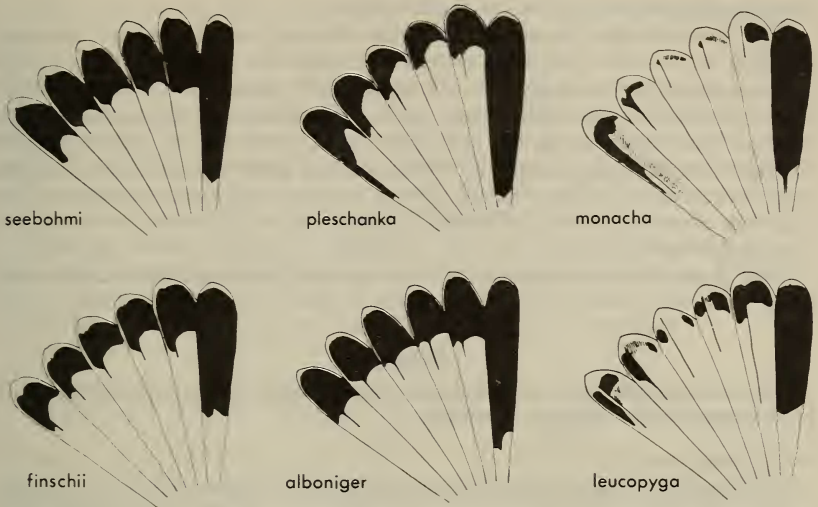


Figure 3. Tail pattern in adults of species of wheatear which may be closely-related to *Oenanthe phillipsi*. Cf. Fig. 1. All tails are of freshly-moulted birds. *O. monacha* and *O. leucopyga* often show less black than illustrated here, but the tails shown demonstrate the shape of the black areas when present.

crown, nape, back and scapulars grey tinged with brown\*; sides of neck, ear-coverts, lores, chin, throat and breast black, mottled or scalloped to a variable extent with grey\*; rump and upper tail-coverts white; tail as juvenile\*; belly and under tail-coverts white; primaries as juvenile although losing buff tip\*; secondaries and tertials as adult but buff tips broader\*; greater primary-coverts brown, with narrow cream edgings progressively lost through wear\*; other wing-coverts pale grey; underwing as adult; bill black but lower mandible often basally horn\*.

The feathers of the upperparts have lost the juvenile brown through wear and partial moult, becoming grey. However the grey is tinged brown, unlike the pure colour of the adult feathers (noted as a 'female' characteristic by Hall & Moreau 1970). Likewise, the feathers of the face, throat and breast have lost their brown tips, revealing mottled grey and black. These feathers are grey to a variable extent: in a few individuals, the face, throat and breast can be almost black following the post-juvenile moult, although some scalloping always remains, while at the other extreme, these areas can look almost wholly grey. However, it is to be noted that some adults may have a little fine white scalloping on the lower breast, near the white belly, but this is evident in fresh dress only and has a different appearance from the more generally-distributed grey mottling of immature birds.

The bill changes progressively to the adult colour. It is noticeably horn at the lower mandible's base in 13 of 15 (87%) first-winter birds and 9 of 22 (41%) adults.

Hence, the following features help to identify a first-winter bird: brown tinge on back; grey mottling on face, throat and breast; tail pattern; primary shape and colour; colour of greater primary-coverts; bill colour. The grey mottling on the black areas should permit field identification of such birds.

## FIRST SUMMER (FEBRUARY-JUNE) MALE AND FEMALE

The first summer plumage resembles the first winter except: the grey mottling on the black areas is almost or completely lost (by March); most rectrices have the adult pattern; primary-covert edgings have worn off; the lower mandible is as adult. Some individuals remain recognizable as first summer birds in the hand, but probably none in the field, by: brown tinge on upperparts; remaining juvenile rectrices; primary shape and colour (unless the outers are moulted, when contrast shows); traces of edgings or browner colour of greater primary-coverts; by June, all upperparts, wing-coverts and primaries very badly worn.

From June, first-year birds moult and become indistinguishable from older birds.

## Moult

The plumage phases described above are developed through wear and moult. There appear to be 2 types of moult.

*Post-juvenile moult*

The breeding season is April-June (Archer & Godman 1961, J. S. Ash), and juveniles seem to commence moult immediately after fledging or independence. All juvenile specimens examined, from June and July, showed body moult, and birds in first-winter dress appear from late June.

Post-juvenile moult includes body, under wing-coverts and upper wing-coverts except greater primaries. The speckled juvenile dress is rapidly lost by this moult and wear, although odd juvenile wing-coverts (in addition to the greater primary coverts) may be retained until October.

First-winter birds have the body in moult September-November, but not in January. Unfortunately, I was unable to examine any first-winter specimens from August or from December earlier than the 29th, but it appears that this may be a prolongation of the post-juvenile body moult, lasting for up to 6 months.

First-winter birds may replace odd rectrices at any time, but the tail undergoes a partial moult October-January, although the moult in individual birds probably does not take so long. In most individuals, the outer rectrices 3-6 (from centre) on each side are replaced, but there is considerable variation, with some birds moulting the whole tail. As most retain the 2 innermost pairs of rectrices, the pattern on the pair adjacent to the central pair often serves to identify a first-year bird through to the first post-nuptial moult.

Some first-winter birds replace one or more tertials and occasionally the innermost secondary, in January. One specimen examined had also replaced the outer 4 primaries on one side and the outer 5 on the other.

*Post-nuptial moult*

The post-breeding moult starts in late June, and the body is in moult at least until November. This moult is complete. The tail and primaries are replaced June-August, and possibly into September. The tail moult is irregular and the primary moult may be considerably out of phase on the 2 wings (e.g. left 5<sup>5</sup>10<sup>4</sup>, right not yet commenced). The secondaries are in moult June-August and the tertials June to mid-September. The tertial moult is rapid, complete by late July in some. Secondary moult is also irregular, possibly commencing with both outers and inners and progressing centripetally.

About half of the adult specimens from late December to February show traces of body moult on the back only. This seems unlikely to be a true pre-nuptial moult, which is probably absent in *O. phillipsi*, as in other Turdidae (Ridgway 1907). It is more likely to be the final stages of an extended post-nuptial moult, but, unfortunately, no specimens from late November or early December were available to prove continuity. If this were the case, the post-nuptial moult would extend almost to the recommencement of breeding.

### Sexual dimorphism

Although monomorphic in plumage, there are sexual differences in size, with males averaging significantly larger in wing, tail and tarsus (Table 1). These differences cannot, unfortunately, be used to determine the sex of individual birds, as the ranges overlap broadly for each variable.

TABLE 1

Morphometrics of *Oenanthe phillipsi*. Data are in the form  $\bar{x} \pm 1S.E.$  (n) range.  
\* $P < 0.05$ , \*\* $P < 0.01$ , \*\*\* $P < 0.005$  (2-tailed t-tests) for male-female differences.

	Wing	Tail <sup>1</sup>	Bill <sup>2</sup>	Tarsus
Adult male	83.9±0.6(12) 80-86	48.9±0.6(13) 44-52	17.5±0.1(13) 17-18	25.2±0.2(13) 23-26
Adult female	80.7±0.8(6) 79-83	46.0±0.8(6) 44-49	17.3±0.2(6) 17-18	23.8±0.5(5) 22-25
Immature male	81.9±0.9(9) 78-87	49.4±0.7(9) 47-53	16.6±0.3(8) 15-18	25.0±0.3(9) 24-26
Immature female	79.9±0.5(10) 78-83	48.8±0.4(10) 47-52	16.6±0.2(9) 15-17	24.5±0.3(10) 23-26

<sup>1</sup> The longer tail of immatures is due to presence of an unworn white tip in more of the immature specimens.

<sup>2</sup> The bill is still growing in young birds, being smallest in newly-fledged specimens and reaching adult size by (usually) January.

### Systematic position

*O. phillipsi* has been allied with *O. oenanthe* or *O. pleschanka* (= *leucomela*) on the basis of colour pattern or sexual dimorphism, as outlined earlier. As plumage dimorphism is in fact absent from this species, it seems worth while to re-examine plumage characteristics relative to those of other *Oenanthe* species.

Characters which seem useful in determining relationships within the genus include those in Table 2. Shown are most of the important plumage features which vary within the genus, and which enable *Oenanthe* spp. to be placed in a number of more or less well-defined groups (Tye, unpubl.). One such group, which includes *O. oenanthe* and *O. pleschanka*, comprises species with predominantly grey or brown upperparts (in adults of one or both sexes), while another includes species which are mainly or exclusively black or white. The first group extends across the Palaearctic, while the second is centred on north Africa and the Middle East.

On general appearance, it may seem that *O. phillipsi* belongs with the first group. However, a more detailed comparison (Table 2) with *O.o. seebohmi* and *O. pleschanka* (the 2 members of the 'grey/brown' group with which *O. phillipsi* has most in common) and with members of the 'black-and-white' group, reveals that *O. phillipsi* shares more features with the latter.

This analysis is no less subjective than other taxonomic studies, as it is difficult to define 'a character'. For instance, *O.o. seebohmi* males have a brown back only in non-breeding dress. However, scoring only breeding dress but including an extra character 'Presence of distinct non-breeding plumage', increases the scores of all members of the black-and-white group by one as well as that of *O.o. seebohmi*, while leaving the score for *O. pleschanka* unchanged. Similarly, the colour of the upperparts could be treated as 2 characters (crown and back) as here, or as one carrying half the weight and increasing the number

TABLE 2

A comparison of plumage characters between *Oenanthe phillipsi* and possible close relatives. Numbers indicate the degree to which each character is shared with *O. phillipsi*: higher scores indicate closer similarity. Where sexual dimorphism exists, scores are based on male plumage.

Species	Tail pattern <sup>1</sup>	Crown	Back	Wing coverts	Under wing	Extent of black on underparts	Under tail coverts	Sexual dimorphism	Distinct immature plumage <sup>2</sup>	Overall similarity with <i>phillipsi</i>
<i>phillipsi</i>	—	Grey	Grey	Grey	Black	Breast	White	Absent	Present	—
<i>o. seebohmi</i>	0.33	Grey brown <sup>3</sup>	Grey brown <sup>3</sup>	Black	Grey	Throat	White 1	Present	Absent (as ♀) 0.25	2.58
<i>pleschanka</i>	0.42	White brown	Black brown	Black	Black 1	Throat	White 1	Present	Absent (as ♀) 0.25	2.67
<i>monacha</i>	0.83	White	Black	Black	Black 1	Breast 1	White 0.5 or buff	Present	Present <sup>4</sup> 1	4.33
<i>finschii</i>	0.50	Grey-white	Grey-white	Black	Black 1	Upper breast	White 1	Present	Absent (as adults)	4.00
<i>albioniger</i>	0.50	Black	Black	Black	Black 1	Throat	White 1	Absent 1	Absent (as adult)	3.50
<i>leucopyga</i>	0.75	White	Black	Black	Black 1	Belly	White 1	Absent 1	Present (crown black) 0.5	4.25

<sup>1</sup> See Figs. 1 & 3. For explanation of tail scoring system, see text.

<sup>2</sup> Scored 1 if distinct from adults of either sex in breast colour, 0.5 if distinct from adults of either sex in another character, 0.25 if as female in a sexually dimorphic species.

<sup>3</sup> Brownier in non-breeding dress.

<sup>4</sup> White mottling on black areas of underparts.

of fractional scores. Tail-pattern may be treated as one character or several. To reduce subjectivity, it was assessed on each of 6 characteristics, which were scored 0, 0.5 or 1.0 according to an assessment of the degree of resemblance to *O. phillipsi*. The 6 scores were then summed and divided by 6 to give an overall tail score of maximum 1, thereby avoiding giving undue weight to this feature. The 6 characteristics were: (1) shape and (2) extent of black on central pair of rectrices; (3) shape and (4) extent of black on outer webs of all other i.e. outer rectrices; (5) shape and (6) extent of black on inner webs of outer rectrices. In fact, treating upperparts as one character or tail as more than one, divorces *O. phillipsi* even further from *O. oenanthe* and *O. pleschanka* and brings it closer to the black-and-white group. In other words, Table 2 understates the differences between *O. phillipsi* and *O. oenanthe/O. pleschanka* and minimises its similarities with members of the black-and-white group.

However, despite the evident distance of *O. phillipsi* from *O. oenanthe*, these are the only two *Oenanthe* spp. possessing a french-grey back, suggesting that *O. phillipsi* may link the 2 groups of species.

Table 2 reveals that *O. phillipsi* possesses some quite distinct characteristics, such as its pale grey wing-coverts, which are unique in the genus. Also, a distinct immature plumage based on the colour of the face, throat and breast is unusual, and approached in only the Hooded Wheatear *O. monacha* and possibly the Desert Wheatear *O. deserti*, in which immature males may have some white mottling on the black of the underparts. It seems clear that *O. phillipsi* is a well-differentiated species, and is certainly not sufficiently close to be regarded as a subspecies of any other species of wheatear.

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## A new generic status for the Dappled Mountain Robin

by M. P. S. Irwin & P. A. Clancey

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A recent study of the Spot-throat *Modulatrix stictigula* (Reichenow) by Irwin & Clancey (1985) has again focussed attention on the limits of the small Afrotropical robin genus *Modulatrix* Ripley, 1952. They concluded that, despite doubts expressed elsewhere, *stictigula* was correctly placed in the